

CLAIMS:

Having thus described our invention, what we claim as new, and desire to secure by

Letters Patent is:

- 1 1. A method for automatically launching an application in a computing
2 device by authenticating a user via a digital camera associated with said computing
3 device, said method comprising:
 - 4 (a) obtaining a digital representation of said user via said digital camera;
 - 5 (b) filtering said digital representation with an digital edge detection
6 algorithm to produce a resulting digital image;
 - 7 (c) comparing said resulting digital image to a pre-stored digital image of
8 said user;
 - 9 (d) retrieving user information including an application to be launched in
10 response to a successful comparison result, said user information being associated with
11 said pre-stored digital image of said user; and
12 (e) launching said application.
- 1 2. The method according to Claim 1, further comprising a step of: aligning
2 said user in relation to said computing device for obtaining a digital representation of said
3 user.
- 1 3. The method according to Claim 1, further comprising a step of:
2 centering said resulting image with respect to a frame provided in said computing device.

1 4. The method according to Claim 1, said comparing step further
2 comprising a step of: sliding vertical and horizontal edges of said resulting image over
3 said pre-stored image for enabling said comparing.

1 5. The method according to Claim 1, wherein said resulting image and
2 said pre-stored image for said user are binary matrices.

1 6. The method according Claim 1, wherein said comparing step utilizes an
2 approximation filter to improve comparing of the resulting image with the pre-stored
3 image.

1 7. The method according to Claim 1, wherein said pre-stored digital image
2 of said user is stored in a database on said computing device.

1 8. The method according to Claim 1, wherein said application is an e-mail
2 client.

1 9. The method according to 8, said launching step further comprising a
2 step of: logging into said e-mail client by utilizing user information including username
3 and password associated with said user.

1 10. The method according to 8, further comprising a step of:

2 automatically retrieving one or more e-mail messages from said e-mail
3 client for said user; and
4 displaying said one or more e-mail messages to said user via a display.

1 11. The method according to Claim 1, further comprising a step of:
2 sensing said user in proximity to said computing device for obtaining said digital
3 representation of said user.

1 12. The method according to Claim 1, wherein said user interacts via an
2 interface with said computing device for obtaining said digital representation of said user.

1 13. The method according to Claim 1, wherein said pre-stored digital
2 image for said user is obtained from a pre-existing digital representation of said user
3 filtered by an edge detection algorithm.

1 14. The method according to Claim 1, wherein said edge detection
2 algorithm is a one bit per pixel edge detection algorithm.

1 15. The method according to Claim 14, wherein said one bit per pixel edge
2 detection algorithm is a Sobel operator.

1 16. The method according to Claim 1, wherein said filtering step further
2 comprises a step of: filtering said resulting digital image with a second edge detection

3 algorithm which is selected from the group consisting of: a Laplacian filter; and a
4 Gaussian filter.

1 17. The method according to Claim 1, wherein in response to said
2 successful match, user information corresponding to said user including user's name is
3 displayed to said user on a visual display.

1 18. The method according to Claim 1, wherein if no match is found for
2 said user, said method further comprising the steps of:

3 prompting said user to enter user information associated with said pre-
4 stored image of said user; and

5 launching said application in response to a successful match of entered
6 user information to user information associated with said pre-stored image of said user.

1 19. The method according to Claim 1, said method further comprising a
2 step of: updating said pre-stored digital image of said user by merging said pre-stored
3 digital image with said resulting digital image to generate a composite image.

1 20. The method according to Claim 19, wherein said composite image is
2 generated by taking an arithmetical mean of said pre-stored digital image and said
3 resulting digital image.

1 21. The method as claimed in Claim 19, further comprising a step of:
2 processing said composite image with a least squares algorithm for improving definition
3 of edges in said composite image.

1 22. The method according to Claim 1, further comprising a step of:
2 prompting said user to confirm user information associated with said pre-
3 stored digital image in response to said successful match of said user.

1 23. A system for automatically launching an application in a computing
2 device by authenticating a user via a digital camera associated with said computing
3 device, said method comprising:

4 (a) a mechanism for obtaining a digital representation of said user via said
5 digital camera;

6 (b) a mechanism for filtering said digital representation with an digital
7 edge detection algorithm to produce a resulting digital image;

8 (c) a mechanism for comparing said resulting digital image to a pre-stored
9 digital image of said user; and

10 (d) a mechanism for retrieving user information including an application
11 to be launched in response to a successful comparison result, said user information being
12 associated with said pre-stored digital image of said user; and

13 (e) a mechanism for launching said application.

1 24. The system according to Claim 23, wherein said computing device is
2 connected to a communications network.

1 25. The system according to Claim 23, wherein said computing device is
2 incorporated into a household appliance or a security appliance.

1 26. The system according to Claim 23, wherein said application is an e-
2 mail client.

1 27. The method according to Claim 23, further comprising a mechanism
2 for aligning said user in relation to said computing device for obtaining a digital
3 representation of said user.

1 28. The method according to Claim 23, further comprising a mechanism
2 for centering said resulting image with respect to a frame provided in said computing
3 device.

1 29. The system according to Claim 23, further comprising a mechanism
2 for logging into said e-mail client by utilizing username and password associated with
3 said user.

1 30. The system according to Claim 23, said system further comprising:

2 a mechanism for retrieving one or more e-mail messages from said e-mail
3 client for said user in response to launching of said e-mail client; and
4 a mechanism for displaying said one or more e-mail messages to said user
5 via a display.

1 31. The method according to Claim 23, further comprising a mechanism
2 for sensing said user in proximity to said computing device for obtaining said digital
3 representation of said user.

1 32. The system according to Claim 23, wherein if no match is found for
2 said user, said system further comprising:
3 a mechanism for prompting said user to enter user information associated
4 with said pre-stored image of said user; and
5 a mechanism for launching said application in response to a successful
6 match of entered user information to user information associated with said pre-stored
7 image of said user.

1 33. The system according to Claim 23, said system further comprising:
2 a mechanism for updating said pre-stored digital image of said user by
3 merging said pre-stored digital image with said resulting digital image into a composite
4 image.

1 34. A program storage device readable by a machine, tangibly embodying
2 a program of instructions, executable by said machine to perform method steps for
3 automatically launching an application in a computing device by authenticating a user via
4 a digital camera associated with said computing device, said method steps comprising:
5 (a) obtaining a digital representation of said user via said digital camera;
6 (b) filtering said digital representation with an digital edge detection
7 algorithm to produce a resulting digital image;
8 (c) comparing said resulting digital image to a pre-stored digital image of
9 said user;
10 (d) retrieving user information including an application to be launched in
11 response to a successful comparison result, said user information being associated with
12 said pre-stored digital image of said user; and
13 (e) launching said application.